



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,368	12/19/2001	Douglas Alan Gourlay	CISCP199/92761	8709
22434 7590 06/05/2009 Weaver Austin Villeneuve & Sampson LLP P.O. BOX 70250 OAKLAND, CA 94612-0250				
EXAMINER				
JOO, JOSHUA				
ART UNIT		PAPER NUMBER		
2454				
MAIL DATE		DELIVERY MODE		
06/05/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/034,368

Applicant(s)

GOURLAY ET AL.

Examiner

JOSHUA JOO

Art Unit

2454

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-9,11-27 and 29-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6-9,11-20,22-27 and 29-42 is/are rejected.
- 7) ☒ Claim(s) 5 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsman's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Detailed Action

This Office action is in response to Applicant's communication filed on 03/23/2009.

Claims 1-2, 4-9, 11-27, 29-42 are pending for examination.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/23/2009 has been entered.

Response to Arguments

Applicant's arguments with respect to claims 1-2, 4-9, 11-27, 29-42 have been considered but are moot in view of the new ground(s) of rejection. Applicant argued that:

Regarding the rejected claims 9, 12-15, 19, and 22-25, Brendel and Coughlin fails to show or suggest Internet Service Providers (ISPs).

In response, the claims recite "Service Provider of the Internet". Given the broadest reasonable interpretation, "Service Provider of the Internet" may be interpreted as a provider that provides service on the Internet.

Allowable Subject Matter

Claims 5 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 37 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- i) Regarding claim 37, it is unclear as to which acknowledgement packet "the corresponding acknowledgement packet" is referring to in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4, 6-8, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brendel, US Patent #6,587,438 (Brendel hereinafter), in view of Ishizaki et al, US Patent #6,810,421 (Ishizaki hereinafter) and Benayoun et al US Patent #6,950,429 (Benayoun hereinafter).

As per claim 1, Brendel teaches substantially the invention as claimed including a network device adapted for processing a service request, comprising:

a processor; and a memory (col. 5, lines 51-56. Server is able to receive and respond to a request. Processor and memory are essential.), at least one of the processor or the memory being adapted for: receiving a service request (col. 5, lines 51-52; col. 7, lines 14-16. Client sends request.); sending a plurality of response packets in response to receiving the service request, each of the plurality of response packets identifying a different type of service via which to send a corresponding

one of the plurality of response packets (col. 5, lines 52-57; col. 7, lines 27-30. Server responds by sending multiple packets, each packet over a different path.), wherein the type of service directly corresponds to an Internet Service Provider such that each of the plurality of response packets is sent via a different one of a plurality of Internet Service Providers (col. 11, lines 5-11. Routes to different ISPs.); and

maintaining an IP address (col. 10, line 60-col. 11, line 10. Table contains a list of IP addresses including addresses corresponding to ISPs.), thereby enabling the service request to be processed via an IP address associated with a type of service identified in a first one of the plurality of packets to be received (col. 11, lines 27-31. Packet comprises server address and path address.), wherein the type of service identified in the first one of the plurality of response packets to be received identifies an Internet Service Provider (col. 6, lines 20-24. Client sends packet to the server using identified addresses in the packet. col. 11, lines 5-11, 27-31. ISPs may be included in path. Packet includes the used path.)

providing an IP address of the one of the plurality of Service Providers on the Internet identified in a first one of the plurality of responses to be received (col. 10, lines 61-65. Specify path by including list of IP addresses.).

Brendel does not explicitly teach of maintaining a mapping of each different type of service to an IP address. Brendel teaches of providing the IP address but does not specifically teach of mapping to the type of service identified in the first one of the plurality of response packets to be received.

Ishizaki teaches of maintaining records that map each different type of service to an IP address and providing a packet comprising an IP address associated with a type of service (col. 7, lines 9-12; col. 8, lines 13-15; col. 10, lines 4-11. Type of service mapped to an address.).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for a type of service to be mapped to an IP address as taught by Ishizaki such the type of service is mapped to the different IP addresses of service providers, which would allow the server

to maintain and manage service information regarding the IP addresses and provide the service information to a requesting client to allow the client to determine a service to send request(s) (col. 2, lines 47-54).

Benayoun teaches of identifying a type of service in a packet to be received and determining a route that is mapped to the type of service identified in the packet (col. 4, lines 34-38, 50-53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for the IP address of the one of the plurality of Service Providers on the Internet to be mapped to the type of service identified in a packet. The motivation for the suggested combination is that Benayoun's teachings would improve the suggested system by enabling a node to determine an optimum route based on contents in a field contained in each packet (Abstract; col. 2, lines 36-41; col. 3, lines 9-15).

As per claim 6, Brendel teaches substantially the invention as claimed including a computer readable medium for processing a service request, comprising:

instructions for receiving a service request (col. 5, lines 51-52; col. 7, lines 14-16. Client sends request.);

instructions for sending a plurality of response packets in response to receiving the service request, each of the plurality of response packets identifying a different type of service via which to send a corresponding one of the plurality of response packets (col. 5, lines 52-57; col. 7, lines 27-30. Server responds by sending multiple packets, each packet over a different path.), wherein the type of service directly corresponds to an Internet Service Provider such that each of the plurality of response packets is sent via a different one of a plurality of Internet Service Providers (col. 11, lines 5-11. Routes to different ISPs.); and

instructions for maintaining an IP address (col. 10, line 60-col. 11, line 10. Table contains a list of IP addresses including addresses corresponding to ISPs.), thereby enabling the service request to be processed via an IP address associated with a type of service identified in a first one of the plurality of packets to be received (col. 11, lines 27-31. Packet comprises server address and path address.), wherein the type of service identified in the first one of the plurality of response packets to be received identifies an Internet Service Provider (col. 6, lines 20-24. Client sends packet to the server using identified addresses in the packet. col. 11, lines 5-11, 27-31. ISPs may be included in path. Packet includes the used path.)

instructions for providing an IP address of the one of the plurality of Service Providers on the Internet identified in a first one of the plurality of responses to be received (col. 10, lines 61-65. Specify path by including list of IP addresses.).

Brendel does not explicitly teach of maintaining a mapping of each different type of service to an IP address. Brendel teaches of providing the IP address but does not specifically teach of mapping to the type of service identified in the first one of the plurality of response packets to be received.

Ishizaki teaches of maintaining records that map each different type of service to an IP address and providing a packet comprising an IP address associated with a type of service (col. 7, lines 9-12; col. 8, lines 13-15; col. 10, lines 4-11. Type of service mapped to an address.).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for a type of service to be mapped to an IP address as taught by Ishizaki such the type of service is mapped to the different IP addresses of ISPs, which would allow the server to maintain and manage service information regarding the IP addresses and provide the service information to a requesting client to allow the client to determine a service to send request(s) (col. 2, lines 47-54).

Benayoun teaches of identifying a type of service in a packet to be received and determining a route that is mapped to the type of service identified in the packet (col. 4, lines 34-38, 50-53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for the IP address of the one of the plurality of Service Providers on the Internet to be mapped to the type of service identified in a packet. The motivation for the suggested combination is that Benayoun's teachings would improve the suggested system by enabling a node to determine an optimum route based on contents in a field contained in each packet (Abstract; col. 2, lines 36-41; col. 3, lines 9-15).

As per claim 7, Brendel teaches substantially the invention as claimed including in a network device, a method of processing a service request, comprising:

receiving a service request (col. 5, lines 51-52; col. 7, lines 14-16. Client sends request.);

sending a plurality of response packets in response to receiving the service request, each of the plurality of response packets identifying a different type of service via which to send a corresponding one of the plurality of response packets (col. 5, lines 52-57; col. 7, lines 27-30. Server responds by sending multiple packets, each packet over a different path.), wherein the type of service directly corresponds to an Internet Service Provider such that each of the plurality of response packets is sent via a different one of a plurality of Internet Service Providers (col. 11, lines 5-11. Routes to different ISPs.);
and

maintaining an IP address (col. 10, line 60-col. 11, line 10. Table contains a list of IP addresses including addresses corresponding to ISPs.), thereby enabling the service request to be processed via an IP address associated with a type of service identified in a first one of the plurality of packets to be received (col. 11, lines 27-31. Packet comprises server address and path address.), wherein the type of service identified in the first one of the plurality of response packets to be received identifies an Internet

Service Provider (col. 6, lines 20-24. Client sends packet to the server using identified addresses in the packet. col. 11, lines 5-11, 27-31. ISPs may be included in path. Packet includes the used path.)

providing an IP address of the one of the plurality of Service Providers on the Internet identified in a first one of the plurality of responses to be received (col. 10, lines 61-65. Specify path by including list of IP addresses.).

Brendel does not explicitly teach of maintaining a mapping of each different type of service to an IP address. Brendel teaches of providing the IP address but does not specifically teach of mapping to the type of service identified in the first one of the plurality of response packets to be received.

Ishizaki teaches of maintaining records that map each different type of service to an IP address and providing a packet comprising an IP address associated with a type of service (col. 7, lines 9-12; col. 8, lines 13-15; col. 10, lines 4-11. Type of service mapped to an address.).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for a type of service to be mapped to an IP address as taught by Ishizaki such the type of service is mapped to the different IP addresses of ISPs, which would allow the server to maintain and manage service information regarding the IP addresses and provide the service information to a requesting client to allow the client to determine a service to send request(s) (col. 2, lines 47-54).

Benayoun teaches of identifying a type of service in a packet to be received and determining a route that is mapped to the type of service identified in the packet (col. 4, lines 34-38, 50-53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for the IP address of the one of the plurality of Service Providers on the Internet to be mapped to the type of service identified in a packet. The motivation for the suggested combination is that Benayoun's teachings would improve the suggested system by enabling a node to determine an

optimum route based on contents in a field contained in each packet (Abstract; col. 2, lines 36-41; col. 3, lines 9-15).

As per claim 8, Brendel teaches substantially the invention as claimed including a network device for processing a service request, comprising:

means for receiving a service request (col. 5, lines 51-52; col. 7, lines 14-16. Client sends request.);

means for sending a plurality of response packets in response to receiving the service request, each of the plurality of response packets identifying a different type of service via which to send a corresponding one of the plurality of response packets (col. 5, lines 52-57; col. 7, lines 27-30. Server responds by sending multiple packets, each packet over a different path.), wherein the type of service directly corresponds to an Internet Service Provider such that each of the plurality of response packets is sent via a different one of a plurality of Internet Service Providers (col. 11, lines 5-11. Routes to different ISPs.); and

means for maintaining an IP address (col. 10, line 60-col. 11, line 10. Table contains a list of IP addresses including addresses corresponding to ISPs.), thereby enabling the service request to be processed via an IP address associated with a type of service identified in a first one of the plurality of packets to be received (col. 11, lines 27-31. Packet comprises server address and path address.), wherein the type of service identified in the first one of the plurality of response packets to be received identifies an Internet Service Provider (col. 6, lines 20-24. Client sends packet to the server using identified addresses in the packet. col. 11, lines 5-11, 27-31. ISPs may be included in path. Packet includes the used path.)

means for providing an IP address of the one of the plurality of Service Providers on the Internet identified in a first one of the plurality of responses to be received (col. 10, lines 61-65. Specify path by including list of IP addresses.).

Brendel does not explicitly teach of maintaining a mapping of each different type of service to an IP address. Brendel teaches of providing the IP address but does not specifically teach of mapping to the type of service identified in the first one of the plurality of response packets to be received.

Ishizaki teaches of maintaining records that map each different type of service to an IP address and providing a packet comprising an IP address associated with a type of service (col. 7, lines 9-12; col. 8, lines 13-15; col. 10, lines 4-11. Type of service mapped to an address.).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for a type of service to be mapped to an IP address as taught by Ishizaki such the type of service is mapped to the different IP addresses of ISPs, which would allow the server to maintain and manage service information regarding the IP addresses and provide the service information to a requesting client to allow the client to determine a service to send request(s) (col. 2, lines 47-54).

Benayoun teaches of identifying a type of service in a packet to be received and determining a route that is mapped to the type of service identified in the packet (col. 4, lines 34-38, 50-53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for the IP address of the one of the plurality of Service Providers on the Internet to be mapped to the type of service identified in a packet. The motivation for the suggested combination is that Benayoun's teachings would improve the suggested system by enabling a node to determine an optimum route based on contents in a field contained in each packet (Abstract; col. 2, lines 36-41; col. 3, lines 9-15).

As per claim 2, Brendel teaches the network device as recited in claim 1, wherein the service request is a TCP connection request or a DNS request (col. 5, lines 51-56; col. 7, lines 14-17. Request for TCP connection.).

As per claim 4, Brendel teaches the network device as recited in claim 1, wherein the type of service indicates a specific network connection or domain (col. 5, lines 55-56; col. 10, lines 61-64. Path identified IP address. col. 11, lines 4-8. Path to ISP.).

As per claim 42, Brendel teaches the network device as recited in claim 1, wherein the type of service identifies the Internet Service Provider (col. 10, line 61-col. 11, line 10. Packet is specified by list of IP addresses corresponding to routers, gateways, and ISPs.).

Claims 9, 11-13, 15-19, 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brendel, in view of Coughlin et al, US Patent #6,810,411 (Coughlin hereinafter).

As per claim 9, Brendel teaches substantially the invention as claimed including a network device adapted for processing a request, comprising:

a processor; and a memory (col. 5, lines 51-56. Server is able to receive and respond to a request. Processor and memory are essential.), at least one of the process or the memory being adapted for:

receiving a request (col. 5, lines 51-52; col. 7, lines 14-16. Client sends request.); and

transmitting a plurality of responses in response to the request, each of the plurality of responses being transmitted via a different path associated with a different type of service (col. 5, lines 52-57; col. 7, lines 27-30. Server responds by sending multiple packets, each packet over a different path.), wherein the type of service identifies or is mapped to a Service Provider of the Internet such that each of the responses

is transmitted via a different one of a plurality of Service Providers of the Internet (col. 11, lines 5-11. Routes to different ISPs.),

providing an IP address of the one of the plurality of Service Providers on the Internet via which a first one of the plurality of responses to be received has been transmitted (col. 10, lines 61-65. Specify path by including list of IP addresses.).

Brendel teaches of a request but does not specifically teach that the request comprises a DNS request indicating a domain name for which an IP address is requested and the responses comprising DNS responses.

Coughlin teaches of a request comprising a DNS request indicating a domain for which an IP address is requested and sending a plurality of DNS responses (col. 5, lines 26-31, 44-51; col. 6, lines 22-31).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for the request and the plurality of responses as taught by Brendel to comprise a DNS request indicating a domain for which an IP address is requested and a plurality of DNS responses as taught by Coughlin. The motivation for the suggested combination is that both teachings similarly deal with identifying a first response to determine an optimum service, and Coughlin's teachings would improve Brendel's teachings by increasing the capability of the system by providing DNS translation and allowing the determination of a server with the shortest latency as taught by Coughlin.

As per claim 23, Brendel teaches substantially the invention as claimed including a computer readable medium for processing a request, comprising:

instructions for receiving a request (col. 5, lines 51-52; col. 7, lines 14-16. Client sends request.);

instructions for transmitting a plurality of responses in response to the request, each of the plurality of responses being transmitted via a different path associated with a different type of service

(col. 5, lines 52-57; col. 7, lines 27-30. Server responds by sending multiple packets, each packet over a different path.), wherein the type of service identifies or is mapped to a Service Provider of the Internet such that each of the responses is transmitted via a different one of a plurality of Service Providers of the Internet (col. 11, lines 5-11. Routes to different ISPs.),

instructions for providing an IP address of the one of the plurality of Service Providers on the Internet via which a first one of the plurality of responses to be received has been transmitted (col. 10, lines 61-65. Specify path by including list of IP addresses.).

Brendel teaches of a request but does not specifically teach that the request comprises a DNS request indicating a domain name for which an IP address is requested and the responses comprising DNS responses.

Coughlin teaches of a request comprising a DNS request indicating a domain for which an IP address is requested and sending a plurality of DNS responses (col. 5, lines 26-31, 44-51; col. 6, lines 22-31).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for the request and responses as taught by Brendel to comprise a DNS request indicating a domain for which an IP address is requested and a plurality of DNS responses as taught by Coughlin. The motivation for the suggested combination is that both teachings similarly deal with identifying a first response to determine an optimum service, and Coughlin's teachings would improve Brendel's teachings by increasing the capability of the system by providing DNS translation and allowing the determination of a server with the shortest latency as taught by Coughlin.

As per claim 24, Brendel teaches substantially the invention as claimed including in a network device, a method for adapted for processing a request, comprising:

receiving a request (col. 5, lines 51-52; col. 7, lines 14-16. Client sends request.); and

transmitting a plurality of responses in response to the request, each of the plurality of responses being transmitted via a different path associated with a different type of service (col. 5, lines 52-57; col. 7, lines 27-30. Server responds by sending multiple packets, each packet over a different path.), wherein the type of service identifies or is mapped to a Service Provider of the Internet such that each of the responses is transmitted via a different one of a plurality of Service Providers of the Internet (col. 11, lines 5-11. Routes to different ISPs.),

providing an IP address of the one of the plurality of Service Providers on the Internet via which a first one of the plurality of responses to be received has been transmitted (col. 10, lines 61-65. Specify path by including list of IP addresses.).

Brendel teaches of a request but does not specifically teach that the request comprises a DNS request indicating a domain name for which an IP address is requested and the responses comprising DNS responses.

Coughlin teaches of a request comprising a DNS request indicating a domain for which an IP address is requested and sending a plurality of DNS responses (col. 5, lines 26-31, 44-51; col. 6, lines 22-31).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for the request and responses as taught by Brendel to comprise a DNS request indicating a domain for which an IP address is requested and a plurality of DNS responses as taught by Coughlin. The motivation for the suggested combination is that both teachings similarly deal with identifying a first response to determine an optimum service, and Coughlin's teachings would improve Brendel's teachings by increasing the capability of the system by providing DNS translation and allowing the determination of a server with the shortest latency as taught by Coughlin.

As per claim 25, Brendel teaches substantially the invention as claimed including a network device adapted for processing a request, comprising:

means for receiving a request (col. 5, lines 51-52; col. 7, lines 14-16. Client sends request.); and

means for transmitting a plurality of responses in response to the request, each of the plurality of responses being transmitted via a different path associated with a different type of service (col. 5, lines 52-57; col. 7, lines 27-30. Server responds by sending multiple packets, each packet over a different path.), wherein the type of service identifies or is mapped to a Service Provider of the Internet such that each of the responses is transmitted via a different one of a plurality of Service Providers of the Internet (col. 11, lines 5-11. Routes to different ISPs.).

means for providing an IP address of the one of the plurality of Service Providers on the Internet via which a first one of the plurality of responses to be received has been transmitted (col. 10, lines 61-65. Specify path by including list of IP addresses.).

Brendel teaches of a request but does not specifically teach that the request comprises a DNS request indicating a domain name for which an IP address is requested and the responses comprising DNS responses.

Coughlin teaches of a request comprising a DNS request indicating a domain for which an IP address is requested and sending a plurality of DNS responses (col. 5, lines 26-31, 44-51; col. 6, lines 22-31).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for the request and responses as taught by Brendel to comprise a DNS request indicating a domain for which an IP address is requested and a plurality of DNS responses as taught by Coughlin. The motivation for the suggested combination is that both teachings similarly deal with identifying a first response to determine an optimum service, and Coughlin's teachings would improve

Brendel's teachings by increasing the capability of the system by providing DNS translation and allowing the determination of a server with the shortest latency as taught by Coughlin.

As per claim 11, Brendel and Coughlin taught the method as recited in claim 24, wherein a plurality of DNS responses are sent. Brendel further teaches wherein each of the plurality of responses includes a different one of a plurality of IP addresses, each of the plurality of IP addresses being mapped to a different one of the plurality of Service Providers of the Internet (col. 10, lines 61-64. Packet header specifies a different path including different IP addresses. col. 11, lines 2-10. IP addresses mapped to routers, gateways, and ISPs.).

As per claim 12, Brendel and Coughlin taught the network device as recited in claim 9, wherein a plurality of DNS responses are sent. Brendel further teaches wherein each of the plurality of responses has the same source address and destination address (col. 5, lines 55-56. Packets sent from server to client.).

As per claim 13, Brendel and Coughlin taught the network device as recited in claim 9, wherein a plurality of DNS responses are sent. Brendel further teaches at least one of the processor and memory being adapted for: providing a service identifier in each of the plurality of responses, the service identifier identifying an Internet Service Provider that is used to route the corresponding response (col. 10, lines 61-64. Packet header specifies a different path including different IP addresses. col. 11, lines 2-10, 54-64. IP addresses mapped to routers, gateways, and ISPs. Packet contains IP address to send packet.).

As per claim 15, Brendel and Coughlin taught of transmitting a DNS request and transmitting a plurality of DNS responses. Brendel does not specifically teach the method of claim 24, wherein receiving a DNS A-record request and transmitting a plurality of A-records.

Coughlin teaches of transmitting a request that requests an IP address corresponding to a domain name and transmitting a plurality of responses comprising IP address corresponding to a domain name (col. 5, lines 26-31, 44-51; col. 6, lines 22-31, 37-44).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to transmit a request that requests an IP address corresponding to a domain name and transmit a plurality of responses comprising IP address corresponding to a domain name. The motivation for the suggested combination is that Coughlin's teachings would improve the capability of the suggested system by enabling the suggested system to provide different services including DNS translation and allowing a client to identify and connect to a suitable service provider (col. 5, lines 53-60; col. 6, lines 27-31).

As per claim 16, Brendel and Coughlin taught of the plurality of A-records, wherein the plurality of responses comprising A-records including a different IP address corresponding to an Internet Service Provider. Brendel does not specifically teach a different IP address that is mapped to a different one of the plurality of Service Providers of the Internet.

Coughlin teaches of transmitting a plurality of responses comprising A-records including a different IP address that is mapped to a different one of the plurality of Service Providers of the Internet (col. 5, lines 26-31, 44-51; col. 6, lines 22-31, 37-44).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to transmit a plurality of responses comprising A-records including a different IP address that is mapped to a different one of the plurality of Service Providers of the Internet. The

motivation for the suggested combination is that Coughlin's teachings would improve the suggested system by providing DNS translation services and distributing the load of servers on the network (col. 4, lines 47-51).

As per claim 17, Brendel teaches of sending a response that identifies the Internet Service Provider. Brendel does not specifically teach the network device as recited in claim 16, wherein each of the plurality of A-records further includes a field adapted for identifying the Internet Service Provider.

Coughlin teaches of a plurality of A-records that identifies the service provider (col. 2, lines 25-31; col. 5, lines 26-39; col. 6, lines 25-31).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for the plurality of A-records as taught by Coughlin to identify an Internet Service Provider. The motivation for the suggested combination is that Coughlin's teachings would improve the suggested system by allowing the client to identify and connect to a most suitable service provider (col. 5, lines 53-60; col. 6, lines 27-31).

As per claim 18, Brendel does not specifically teach the network device as recited in claim 17, at least one of the processor or the memory being further adapted: maintaining a table of A-records that includes the plurality of A-records.

Coughlin teaches of maintaining a mapping of host names to IP addresses (col. 4, lines 39-44; col. 5, lines 44-51).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to maintain a mapping of host names to IP addresses. The motivation for the suggested combination is that Coughlin's teachings would enhance the system by providing DNS translation and allowing the determination of a server with the shortest latency as taught by Coughlin.

As per claim 19, Brendel does not specifically teach the method as recited in claim 24, wherein transmitting a plurality of DNS responses comprises transmitting the plurality of DNS responses to client DNS server associated with a client initiating the DNS request.

Coughlin teaches of transmitting a plurality of DNS response to a client DNS server associated with a client initiating the DNS request (col. 6, lines 23-31).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to transmit a plurality of DNS response to a client DNS server associated with a client initiating the DNS request. The motivation for the suggested combination is that Coughlin's teachings would improve the suggested system by providing DNS translation services and distributing the load of servers on the network (col. 4, lines 47-51).

As per claim 22, Brendel and Coughlin taught the method as recited in claim 24 of transmitting a plurality DNS responses. Brendel further teaches of transmitting a plurality of responses via one or more intermediate routers configured to perform next-hop policy based routing based on the type of service (col. 10, lines 61-64; col. 11, lines 1-11, 54-56. Packet specifies path by including IP addresses. Routes to ISPs col. 11, lines 54-64. Determine next IP address in route and sent packet.).

Claims 14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brendel and Coughlin, in view of Benayoun.

As per claim 14, Brendel does not specifically teach the network device as recited in claim 9, wherein each of the plurality of responses comprises a type of service field adapted for indicating a type of service to be used during next-hop based routing based on the type of service

Benayoun teaches of packets comprising a type of service field adapted for indicating a Service Provider of the Internet to be used during next-hop based routing on the type of service (col. 4, lines 34-38, 50-53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for each of the plurality of responses as taught by Brendel to comprise a type of service field adapted for indicating a Service Provider of the Internet to be used during next-hop based routing on the type of service. The motivation for the suggested combination is that Benayoun's teachings would improve the suggested system by enabling a node to determine an optimum route based on contents in a field contained in each packet (Abstract; col. 2, lines 36-41; col. 3, lines 9-15).

As per claim 20, Brendel and Coughlin teach the method as recited in claim 19, wherein the client DNS server is configured to identify a first one of the plurality of DNS responses to be received from the network device and to respond to the client with an IP address of the one of the plurality of Service Providers of the Internet (Coughlin: col. 6, lines 23-40). Brendel and Coughlin does not specifically teach of an IP address of the one of the plurality of Service Providers of the Internet corresponding to the type of service identified in the first one of the plurality of DNS responses.

Benayoun teaches of determining a route based on a type of service identified in a packet (col. 4, lines 34-38, 50-53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for the IP address as taught by the suggested system to be based on a type of service identified in a packet. The motivation for the suggested combination is that Benayoun's teachings would improve the suggested system by enabling a node to determine an optimum route based on contents in a field contained in each packet (Abstract; col. 2, lines 36-41; col. 3, lines 9-15).

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brendel, in view of Coughlin and Benayoun.

As per claim 26, Brendel teaches substantially the invention as claimed including a system for selecting an Internet Service Provider via which to process a client request, comprising:

a network device adapted for receiving a request (col. 5, lines 51-52; col. 7, lines 14-16. Client sends request.) and transmitting a plurality of responses, each of the plurality responses being transmitted via a different path associated with a different type of service (col. 5, lines 52-57. Send multiple packets, each packet over different path. col. 10, lines 61-64. Each packet specifies a different path including a different list of IP addresses.), wherein the type of service identifies a Service Provider of the Internet such that each of the plurality of responses is transmitted via different one of a plurality of Service Providers of the Internet (col. 10, line 60-col. 11, line 9. Table determines routes. Table contains list of alternate paths including routers, gateways, and ISPs.);

one or more intermediate routers configured to perform next hop policy based routing based on the type of service (col. 10, lines 61-64. Packet header specifies a different path including different IP addresses. col. 11, lines 2-10, 54-64. IP addresses mapped to ISPs. col. 11, lines 54-64. Router determines next IP address and sends the packet.); and

the client being configured to identify a first one of the plurality of responses to be received from the network device and to respond with an IP address of the Service Provider of the Internet identified in the first one of the plurality of responses (col. 6, lines 13-20. Client responds to packet that arrives first.).

Brendel does not specifically teach of the request comprising a DNS request indicating a domain name for which an IP address is requested, transmitting a plurality of DNS responses, a client DNS server associated with a client initiating the DNS request, the client DNS server being configured to identify a first one of the plurality of DNS responses to be received from the network device and to respond to the client with an IP address identified in the first one of the plurality of DNS responses.

Brendel also does not specifically teach of the type of service identified in the first one of the plurality of responses

Coughlin teaches a system comprising: a request comprising a DNS request indicating a domain for which an IP address is requested and sending a plurality of DNS responses (col. 5, lines 26-31, 44-51; col. 6, lines 22-31. Receive DNS responses.); a client DNS server associated with a client initiating the DNS request and the client DNS server being configured to identify a first one of a plurality of DNS responses (col. 6, lines 23-32. first server selects first arriving DNS response.); and respond to the client with an IP address of a service provider (host) identified by the type of service identified in the first one of the plurality of DNS responses (col. 6, lines 37-40. Communicate first arriving IP address.).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to receive a DNS request indicating a domain name for which is an IP address is requested and transmit a plurality of DNS responses, a client DNS server associated with a client initiating the DNS request, the client DNS server being configured to identify a first one of the plurality of DNS responses to be received from the network device and to respond to the client with an IP address identified in the first one of the plurality of DNS responses. The motivation for the suggested combination is that Coughlin's teachings would improve Brendel's teachings by increasing the capability of the system by providing DNS translation and allowing the determination of a server with the shortest latency as taught by Coughlin.

Benayoun teaches of a type of service identified in a packet and determining an appropriate route as indicated by the type of service (col. 4, lines 34-38, 50-53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to identify a type of service in one of the plurality of DNS responses. The motivation for the suggested combination is that Benayoun's teachings would improve the suggested

system by enabling a node to determine an optimum route based on contents in a field contained in each packet (Abstract; col. 2, lines 36-41; col. 3, lines 9-15).

Claims 27, 29-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brendel, in view of Benayoun and Bohannon et al. US Patent #7,103,651 (Bohannon hereinafter).

As per claim 27, Brendel teaches substantially the invention as claimed including a network device adapted for establishing a TCP connection, comprising:

a processor; and a memory (col. 5, lines 51-56. Server is able to receive and respond to a request. Processor and memory are inherent.), at least one of the processor or the memory being adapted for:

receiving a TCP connection request from a client (col. 5, lines 51-52; col. 7, lines 14-19. Request for TCP connection.);

sending a plurality of TCP acknowledgement packets to the client via a plurality of paths, each of the plurality of paths corresponding to a type of service, wherein the type of service indicates a Service Provider of the Internet such that each of the plurality of TCP acknowledgement packets is sent via a different one of a plurality of Service Providers of the Internet (col. 5, lines 52-56. Send multiple SYN+ACK packets, each SYN+ACK packet sent over different path. col. 10, line 65-col. 11, line 9. Table determines routes. Table contains list of alternate ISPs. col. 12, lines 4-20. Packets sent to different ISPs.);

receiving an acknowledgement message from the client that indicates receipt of one of the plurality of TCP acknowledgement packets sent by the network device (col. 6, lines 18-23. Client sends ACK packet through ISP 18 to server.);

providing an IP address directly corresponding to the Service Provider of the Internet (col. 6, lines 20-24. Client sends packet to the server using identified addresses in the packet. col. 11, lines 5-11, 27-31. ISPs may be included in path. Packet includes the used path).

Brendel does not specifically teach of ascertaining the type of service via which the TCP acknowledgement packet received by the client was transmitted and providing an HTTP redirect to the IP address directly corresponding to the Service Provider by the type of service.

Benayoun teaches of ascertaining a type of service via which packets received was transmitted and determining an appropriate route as indicated by the type of service (col. 4, lines 34-38, 50-53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to ascertain a type of service via which packets received was transmitted and determining an appropriate route based the type of service. The motivation for the suggested combination is that Benayoun's teachings would improve Brendel's teachings by enabling a node to determine an optimum route based on contents in a field contained in each packet (Abstract; col. 2, lines 36-41; col. 3, lines 9-15).

Bohannon teaches of receiving a plurality of HTTP responses and providing an HTTP redirect to an IP address corresponding to a service provider (col. 10, lines 40-44).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to provide a HTTP redirect to the IP address. The motivation for the suggested combination is that Bohannon's teachings would improve the suggested system by allowing automatic redirection to a proper service provider to service client's requests (col. 10, lines 43-45).

As per claim 39, Brendel teaches substantially the invention as claimed including a computer-readable medium storing thereon instructions for establishing a TCP connection, comprising:

instructions for receiving a TCP connection request from a client (col. 5, lines 51-52; col. 7, lines 14-19. Request for TCP connection.);

instructions for sending a plurality of TCP acknowledgement packets to the client via a plurality of paths, each of the plurality of paths corresponding to a type of service, wherein the type of service indicates a Service Provider of the Internet such that each of the plurality of TCP acknowledgement packets is sent via a different one of a plurality of Service Providers of the Internet (col. 5, lines 52-56. Send multiple SYN+ACK packets, each SYN+ACK packet sent over different path. col. 10, line 65-col. 11, line 9. Table determines routes. Table contains list of alternate ISPs. col. 12, lines 4-20. Packets sent to different ISPs.);

instructions for receiving an acknowledgement message from the client that indicates receipt of one of the plurality of TCP acknowledgement packets sent by the network device (col. 6, lines 18-23. Client sends ACK packet through ISP 18 to server.);

instructions for providing an IP address directly corresponding to the Service Provider of the Internet (col. 6, lines 20-24. Client sends packet to the server using identified addresses in the packet. col. 11, lines 5-11, 27-31. ISPs may be included in path. Packet includes the used path).

Brendel does not specifically teach of ascertaining the type of service via which the TCP acknowledgement packet received by the client was transmitted and providing an HTTP redirect to the IP address directly corresponding to the Service Provider by the type of service.

Benayoun teaches of ascertaining a type of service via which packets received was transmitted and determining an appropriate route as indicated by the type of service (col. 4, lines 34-38, 50-53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to ascertain a type of service via which packets received was transmitted and determining an appropriate route based the type of service. The motivation for the suggested combination is that Benayoun's teachings would improve Brendel's teachings by enabling a node to determine an optimum route based on contents in a field contained in each packet (Abstract; col. 2, lines 36-41; col. 3, lines 9-15).

Bohannon teaches of receiving a plurality of HTTP responses and providing an HTTP redirect to an IP address corresponding to a service provider (col. 10, lines 40-44).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to provide a HTTP redirect to the IP address. The motivation for the suggested combination is that Bohannon's teachings would improve the suggested system by allowing automatic redirection to a proper service provider to service client's requests (col. 10, lines 43-45).

As per claim 40, Brendel teaches substantially the invention as claimed including a method for establishing a TCP connection, comprising:

receiving a TCP connection request from a client (col. 5, lines 51-52; col. 7, lines 14-19. Request for TCP connection.);

sending a plurality of TCP acknowledgement packets to the client via a plurality of paths, each of the plurality of paths corresponding to a type of service, wherein the type of service indicates a Service Provider of the Internet such that each of the plurality of TCP acknowledgement packets is sent via a different one of a plurality of Service Providers of the Internet (col. 5, lines 52-56. Send multiple SYN+ACK packets, each SYN+ACK packet sent over different path. col. 10, line 65-col. 11, line 9. Table determines routes. Table contains list of alternate ISPs. col. 12, lines 4-20. Packets sent to different ISPs.);

receiving an acknowledgement message from the client that indicates receipt of one of the plurality of TCP acknowledgement packets sent by the network device (col. 6, lines 18-23. Client sends ACK packet through ISP 18 to server.);

providing an IP address directly corresponding to the Service Provider of the Internet (col. 6, lines 20-24. Client sends packet to the server using identified addresses in the packet. col. 11, lines 5-11, 27-31. ISPs may be included in path. Packet includes the used path).

Brendel does not specifically teach of ascertaining the type of service via which the TCP acknowledgement packet received by the client was transmitted and providing an HTTP redirect to the IP address directly corresponding to the Service Provider by the type of service.

Benayoun teaches of ascertaining a type of service via which packets received was transmitted and determining an appropriate route as indicated by the type of service (col. 4, lines 34-38, 50-53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to ascertain a type of service via which packets received was transmitted and determining an appropriate route based the type of service. The motivation for the suggested combination is that Benayoun's teachings would improve Brendel's teachings by enabling a node to determine an optimum route based on contents in a field contained in each packet (Abstract; col. 2, lines 36-41; col. 3, lines 9-15).

Bohannon teaches of receiving a plurality of HTTP responses and providing an HTTP redirect to an IP address corresponding to a service provider (col. 10, lines 40-44).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to provide a HTTP redirect to the IP address. The motivation for the suggested combination is that Bohannon's teachings would improve the suggested system by allowing automatic redirection to a proper service provider to service client's requests (col. 10, lines 43-45).

As per claim 41, Brendel teaches substantially the invention as claimed including a network device adapted for establishing a TCP connection, comprising:

means for receiving a TCP connection request from a client (col. 5, lines 51-52; col. 7, lines 14-19. Request for TCP connection.);

means for sending a plurality of TCP acknowledgement packets to the client via a plurality of paths, each of the plurality of paths corresponding to a type of service, wherein the type of service indicates a Service Provider of the Internet such that each of the plurality of TCP acknowledgement packets is sent via a different one of a plurality of Service Providers of the Internet (col. 5, lines 52-56. Send multiple SYN+ACK packets, each SYN+ACK packet sent over different path. col. 10, line 65-col. 11, line 9. Table determines routes. Table contains list of alternate ISPs. col. 12, lines 4-20. Packets sent to different ISPs.);

means for receiving an acknowledgement message from the client that indicates receipt of one of the plurality of TCP acknowledgement packets sent by the network device (col. 6, lines 18-23. Client sends ACK packet through ISP 18 to server.);

means for providing an IP address directly corresponding to the Service Provider of the Internet (col. 6, lines 20-24. Client sends packet to the server using identified addresses in the packet. col. 11, lines 5-11, 27-31. ISPs may be included in path. Packet includes the used path).

Brendel does not specifically teach of ascertaining the type of service via which the TCP acknowledgement packet received by the client was transmitted and providing an HTTP redirect to the IP address directly corresponding to the Service Provider by the type of service.

Benayoun teaches of ascertaining a type of service via which packets received was transmitted and determining an appropriate route as indicated by the type of service (col. 4, lines 34-38, 50-53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to ascertain a type of service via which packets received was transmitted and determining an appropriate route based the type of service. The motivation for the suggested combination is that Benayoun's teachings would improve Brendel's teachings by enabling a node to determine an optimum route based on contents in a field contained in each packet (Abstract; col. 2, lines 36-41; col. 3, lines 9-15).

Bohannon teaches of receiving a plurality of HTTP responses and providing an HTTP redirect to an IP address corresponding to a service provider (col. 10, lines 40-44).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings to provide a HTTP redirect to the IP address. The motivation for the suggested combination is that Bohannon's teachings would improve the suggested system by allowing automatic redirection to a proper service provider to service client's requests (col. 10, lines 43-45).

As per claim 29, Brendel teaches the method as recited in claim 40, wherein the TCP connection request comprises a TCP packet having a synchronization flag set and wherein each of the plurality of TCP acknowledgement packets comprise a TCP packet having a synchronize flag set and an acknowledgment flag set (col. 5, lines 41-46; col. 6, lines 55-60. SYN flag set for packet sent by client. SYN+ACK packets sent by server.).

As per claim 30, Brendel does not specifically teach the method as recited in claim 40, wherein each of the plurality of TCP acknowledgement packets comprises a type of service field adapted for indicating one of plurality of Service Providers of the Internet.

Benayoun teaches of packets comprising a type of service field adapted for indicating a Service Provider of the Internet (col. 4, lines 34-38, 50-53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for each of the plurality of TCP acknowledgement packets as taught by Brendel to comprise a type of service field adapted for indicating a Service Provider of the Internet. The motivation for the suggested combination is that Benayoun's teachings would improve Brendel's teachings by enabling a node to determine an optimum route based on contents in a field contained in each packet (Abstract; col. 2, lines 36-41; col. 3, lines 9-15).

As per claim 31, Brendel does not specifically teach the network device as recited in claim 27, wherein each of the plurality of TCP acknowledgment packets comprise a type of service field adapted for indicating a type of service to be used during next-hop based routing on the type of service.

Benayoun teaches of packets comprising a type of service field adapted for indicating a Service Provider of the Internet to be used during next-hop based routing on the type of service (col. 4, lines 34-38, 50-53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for each of the plurality of TCP acknowledgement packets as taught by Brendel to comprise a type of service field adapted for indicating a Service Provider of the Internet to be used during next-hop based routing on the type of service. The motivation for the suggested combination is that Benayoun's teachings would improve Brendel's teachings by enabling a node to determine an optimum route based on contents in a field contained in each packet (Abstract; col. 2, lines 36-41; col. 3, lines 9-15).

As per claim 32, Brendel teaches the network device as recited in claim 27, wherein each of the plurality of TCP acknowledgement packet includes a sequence number field, the at least one of the processor or the memory being further adapted for comprising: providing a sequence number in the sequence number field indicating an order in which the plurality of TCP acknowledgements packets are sent (col. 6, lines 42-44; col. 10, lines 14-20. Order of packets is indicated by sequence numbers.).

As per claim 33, Brendel teaches the network device as recited in claim 32, wherein receiving an acknowledgment message from the client that indicates receipt of one of the plurality of TCP acknowledgment packets sent by the network device comprises: receiving an acknowledgement message

from the client including the sequence number of a first one of the plurality of TCP acknowledgement packets received by the client (col. 6, lines 18-23; col. 7, lines 41-46. Client responds with ACK packet. ACK packet contains server's sequence number incremented by one. (S_ISN+1)).

As per claim 34, Brendel does not specifically teach the network device as recited in claim 33, where each of the plurality of TCP acknowledgement further comprises: a type of service field adapted for indicating one of the plurality of Service Providers of the Internet via which a corresponding one of the plurality of TCP acknowledgement packets is to be transmitted.

Benayoun teaches of packets comprising a type of service field adapted for indicating one of the plurality of Service Providers of the Internet via which a corresponding one of the plurality of packets is to be transmitted (col. 4, lines 34-38, 50-53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for each of the plurality of TCP acknowledgement packets as taught by Brendel to comprise a type of service field adapted for indicating one of the plurality of Service Providers of the Internet via which a corresponding one of the plurality of packets is to be transmitted. The motivation for the suggested combination is that Benayoun's teachings would improve Brendel's teachings by enabling a node to determine an optimum route based on contents in a field contained in each packet (Abstract; col. 2, lines 36-41; col. 3, lines 9-15).

As per claim 35, Brendel teaches the network device as recited in claim 34, at least one of the processor or the memory being further adapted for:

obtaining the sequence number from the acknowledgment message received from the client (col. 6, lines 24-31; col. 8, lines 49-51. Read sequence number in the ACK packet.);

determining a type of service associated with the sequence number (col. 9, line 65-col. 10, line 2; col. 11, lines 17-21. Compare sequence fields to identify path.); and

ascertaining an IP address corresponding to the Internet Service Provider indicated by the type of service (col. 11, lines 15-22. Path IP address field used to specify path.).

As per claim 36, Brendel teaches the network device as recited in claim 35, wherein ascertaining an IP address corresponding to the service provider indicated by the type of service comprises:

performing a look up in a mapping table, the mapping table including a plurality of IP addresses, each of the plurality of IP addresses corresponding to a different Internet Service Provider (col. 11, lines 2-16. Table contains IP addresses of routers and routes to ISPs.).

As per claim 37, Brendel does not specifically teach the method as recited in claim 32, wherein each of the plurality of TCP acknowledgement packets comprises a type of service field adapted for indicating one of plurality of Service Providers of the Internet via which the corresponding acknowledgement packet is to be transmitted.

Benayoun teaches of packets comprising a type of service field adapted for indicating a Service Provider of the Internet via which a corresponding acknowledgement packet is to be transmitted (col. 4, lines 34-38, 50-53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for each of the plurality of TCP acknowledgement packets as taught by Brendel to comprise a type of service field adapted for indicating a Service Provider of the Internet which a corresponding acknowledgement packet is to be transmitted. The motivation for the suggested combination is that Benayoun's teachings would improve Brendel's teachings by enabling a node to

determine an optimum route based on contents in a field contained in each packet (Abstract; col. 2, lines 36-41; col. 3, lines 9-15).

As per claim 38, Brendel does not specifically teach the network device as recited in claim 32, wherein each of the plurality of TCP acknowledgment packets comprise a type of service field adapted for indicating a type of service to be used during next-hop based routing on the type of service.

Benayoun teaches of packets comprising a type of service field adapted for indicating a Service Provider of the Internet to be used during next-hop based routing on the type of service (col. 4, lines 34-38, 50-53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings for each of the plurality of TCP acknowledgement packets as taught by Brendel to comprise a type of service field adapted for indicating a Service Provider of the Internet to be used during next-hop based routing on the type of service. The motivation for the suggested combination is that Benayoun's teachings would improve Brendel's teachings by enabling a node to determine an optimum route based on contents in a field contained in each packet (Abstract; col. 2, lines 36-41; col. 3, lines 9-15).

Conclusion

A shortened statutory period for reply to this Office action is set to expire THREE MONTHS from the mailing date of this action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Joo whose telephone number is 571 272-3966. The examiner can normally be reached on Monday to Thursday 8AM to 5PM and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on 571 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/J. J./
Examiner, Art Unit 2454
/Nathan J. Flynn/
Supervisory Patent Examiner, Art Unit 2454